



Flood Control District of Maricopa County

Flood Control Advisory Board

Notice of Meeting for February 22, 2017


NOTICE OF MEETING OF THE FLOOD CONTROL ADVISORY BOARD

Pursuant to A.R.S. 38-431.02, notice is hereby given to the general public that the Flood Control Advisory Board (FCAB) will hold a meeting open to the public on Wednesday, February 22, 2017 at 2:00 p.m., in the Adobe Conference Room of the Flood Control District located at 2801 West Durango Street in Phoenix. Matters on the agenda may be discussed in executive session for the purpose of obtaining advice thereon.

The agenda is as follows:

- 1) Call to Order.
- 2) Pledge of Allegiance.
- 3) Approval of the Minutes: January 25, 2017 FCAB Meetings.
- 4) **Action Item** – Proposed Fiscal Year 2018 Operating Budget and Decision Package ***Staff recommends the following action:*** To obtain the Advisory Board approval for staff recommendations. Presented by: Chris Hall, Deputy Director.
- 5) **Action Item** – Proposed Fiscal Year 2018 Capital Project Budget and Five-Year Capital Improvement Program ***Staff recommends the following action:*** To obtain the Advisory Board approval for staff recommendations. Presented by: Kim Belt, CIP Program Supervisor.
- 6) **Information and discussion item only.** Fiscal Year 2018 Dam Safety Program and Decision Package Elements. *No formal action is required.* Presented by: Tom Renckly, Dam Safety Branch Manager.
- 7) **Information and discussion item only.** Fiscal Year 2018 Planning Program and Decision Package Elements. *No formal action is required.* Presented by: Doug Williams, Planning Branch Manager.
- 8) **Information and discussion item only.** Fiscal Year 2018 Floodplain Delineation Program and Decision Package Elements. *No formal action is required.* Presented by: Cathy Regester, Hydrology/Hydraulics Branch Manager.
- 9) **This item is for information and discussion only.** Comments from the Chief Engineer and General Manager. *No formal action is required.* Presented by: William D. Wiley, P.E., Chief Engineer and General Manager.

- 10) **This item is for information and discussion only.** Summary of Recent Actions by the Board of Directors. *No formal action is required.* Presented by: William D. Wiley, P.E., Chief Engineer and General Manager.
- 11) **This item is for information and discussion only.** Other Business and Comments from the Public.
No action will be taken.

 ON BEHALF OF WILLIAM D. WILEY

William D. Wiley, P.E.
Chief Engineer and General Manager

February 8, 2017

NOTE: *A sign language interpreter will be made available upon request with 72-hours notice. Alternative format materials or FM or Infrared Listening Devices are also available upon request with 72-hours notice. Additional reasonable accommodations will be made available to the extent possible within the time frame of the request.*

**Flood Control
Advisory Board**

WELCOME

February 22, 2017



Agenda

- Call to Order
- Pledge of Allegiance
- Approval of the 1-25-2017 FCAB Meeting Minutes
- FY 18 Proposed Operating Budget & Decision Package
- FY 18 Proposed Capital Project Budget & 5 Yr Capital Improvement Program
- FY 18 Dam Safety Program & Decision Package Elements
- FY 18 Planning Program & Decision Package Elements
- FY 18 Floodplain Delineation Program & Decision Package Elements
- Comments from the Chief Engineer and General Manager
- Summary of Recent Actions by the Board of Directors
- Other Business and Comments from the Public





Flood Control District FY 2018 Requested Operating Budget

Chris Hall

Deputy Director

ACTION ITEM

**Staff requests that the
Flood Control Advisory Board
endorse and recommend staff's draft
FY 2018 Operating Budget.**

Note: Draft budget may be altered prior to
adoption to address county management
and budget requirements.



FY 2018 Beginning Fund Balance

FY 2017 Beginning Balance: **\$33,997,632**

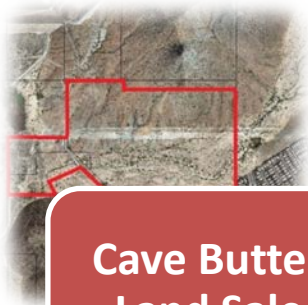
FY 2018 Beginning Balance: **\$58,874,192**

**FY 2018 Beginning Fund Balance
increased \$24,876,560 over FY 2017
despite a mandate from the board
to reduce Fund Balance.**



Why?

Points of Interest



**Cave Buttes
Land Sale**
(\$25.9 M)
One-Time



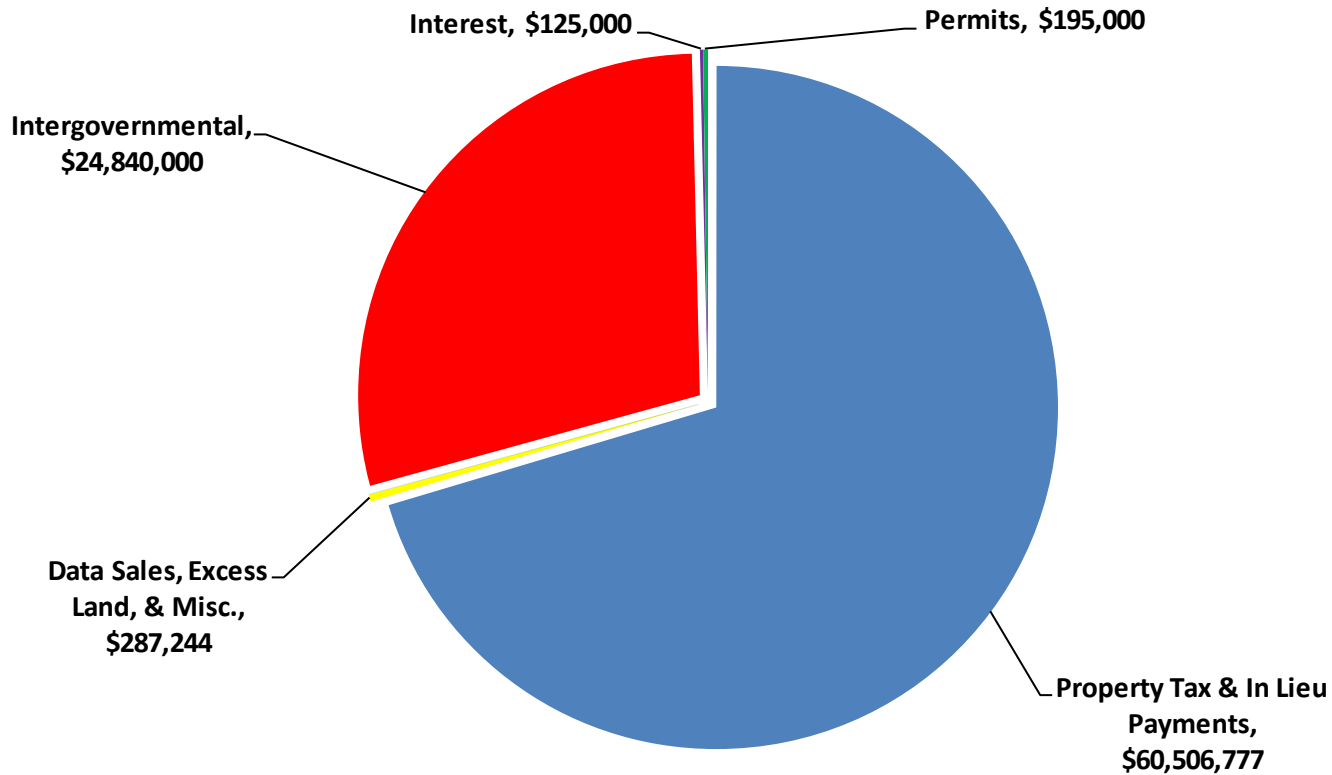
**Recent
Property Tax
Increase**
(\$6.0 M)
Ongoing



**Issues
Remaining
from 2014
Storm Event**

FY 2018 Requested Revenues

Total \$86.0M/Decrease of \$13.7M

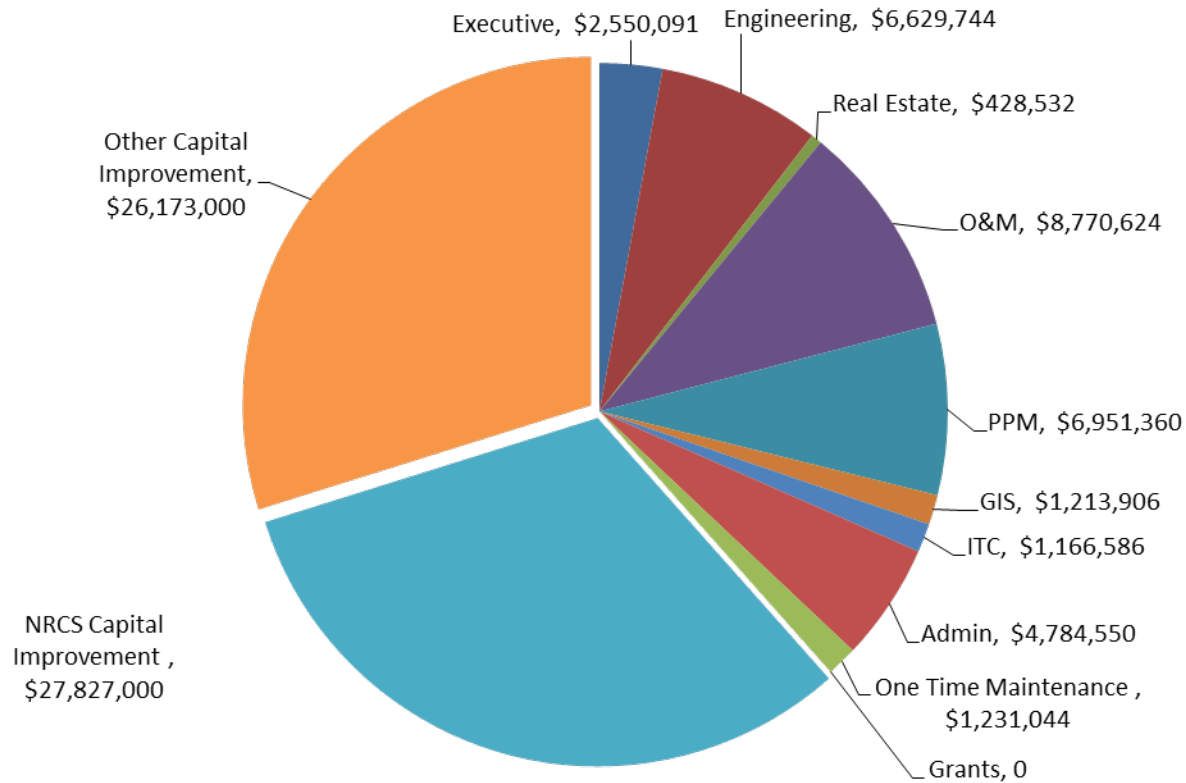


Revenue Comparison

Revenue Source	FY2017 Adopted Budget	FY2018 Requested Budget	Net Change
Property Tax/In Lieu of	\$57,964,113	\$60,506,777	\$2,542,664
Grants	\$5,000	\$0	(\$5,000)
Intergovernmental	\$40,938,500	\$24,840,000	(\$16,098,500)
Licenses & Permits	\$184,600	\$195,000	\$10,400
Miscellaneous	\$504,629	\$287,244	(\$217,385)
Interest	\$65,000	\$125,000	\$60,000
Total	\$99,661,842	\$85,954,021	(\$13,707,821)

FY 2018 Requested Expenditures

Total \$87.7M/Decrease of \$22.8M



Expenditure Comparison

Fund	FY2017 Adopted Expenditures	FY2018 Requested Expenditures	Net Change
Operating	\$32,495,393	\$32,495,393	\$0
One Time Operating	\$0	\$1,231,044	\$1,231,044
Grant	\$5,000	\$0	(\$5,000)
Capital Improvement Projects	\$78,000,000	\$54,000,000	(\$24,000,000)
Total	\$110,500,393	\$87,726,437	(\$22,773,956)

One Time Operating

Maintenance Project	Estimated Cost	
48th St Drain - Storm Damage Repairs –Sept. 2014	\$	158,044
Sun City West - Storm Damage Repairs –Sept. 2014	\$	225,000
Sun City Drain Repair at Grand Ave and 111th Ave	\$	225,000
Drive way access at Sun City West on Bell	\$	200,000
East Maricopa Floodway Dust Free Surface	\$	293,000
Pipe Rail Fence at Old Cross Cut Canal	\$	30,000
Indian Bend Wash Outlet Levee repairs	\$	100,000
	\$	1,231,044

Requested Action

The Flood Control Advisory Board endorse and recommends staff's draft FY 2018 Operating Budget.

Note: Draft budget may be altered prior to adoption to address County management & budget requirements.

Questions





Flood Control District Capital Improvement Program FY 2018 – FY 2022

Kim Belt, CPM

CIP Program Supervisor

ACTION ITEM

District staff recommends that the Flood Control Advisory Board endorse and recommend that the Board of Directors approve:

- Staff's proposed FY 2018 Capital Project Budget
- Staff's proposed FY 2018–2022 Capital Improvement Program

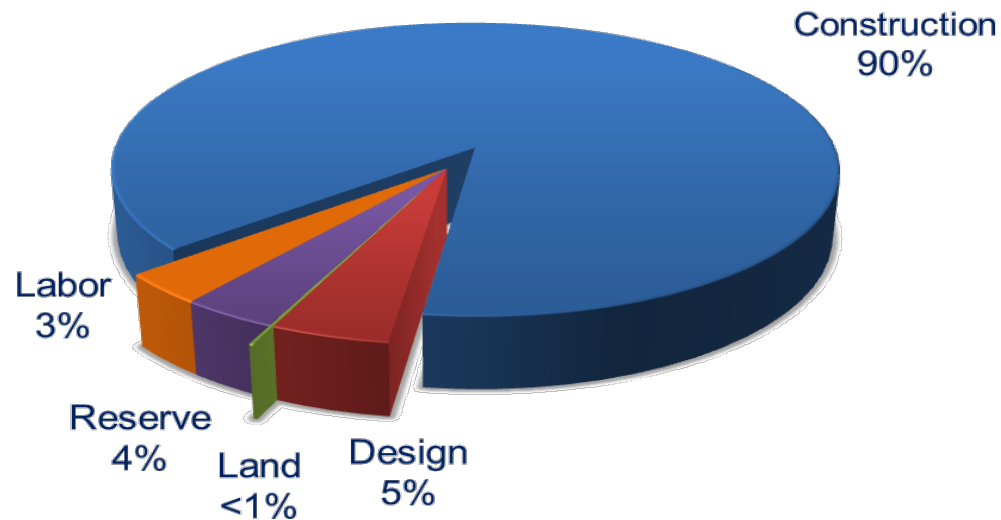
Action requested in accordance with A.R.S. § 48-3616C requirement for Chief Engineers of flood control districts to seek endorsement of citizens' advisory boards prior to annual submittal of capital improvement programs to Board.

Proposed FY 2018 CIP Budget

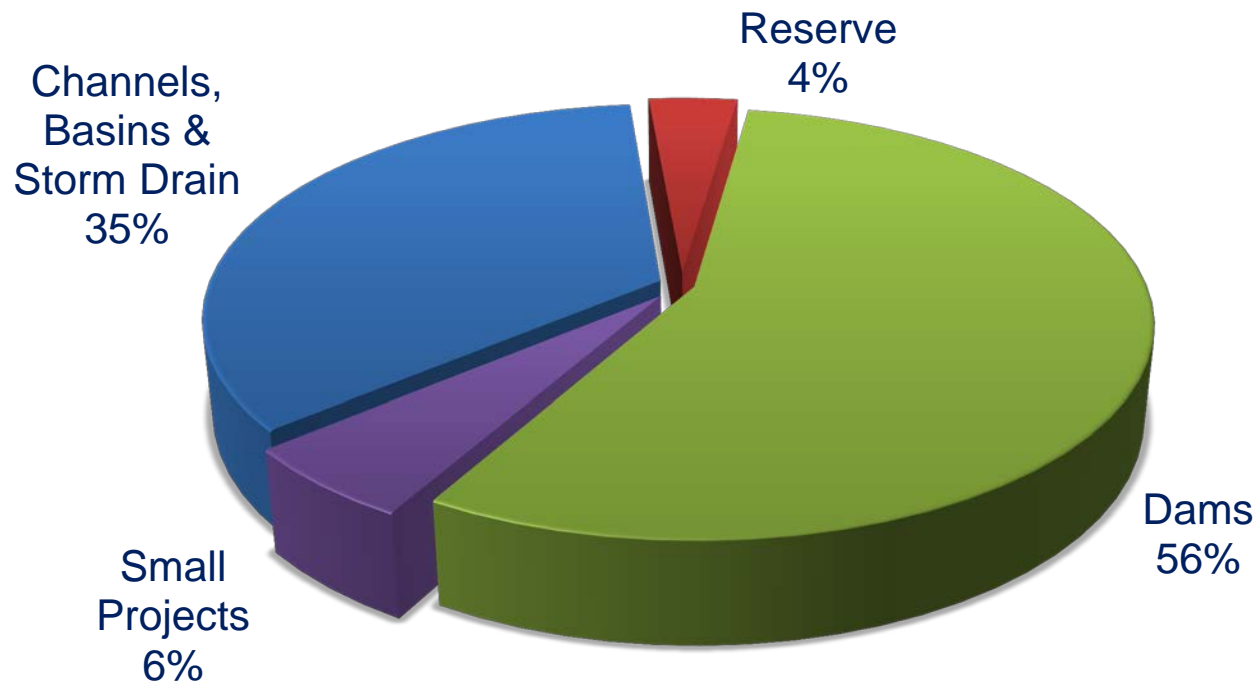
Category	FY 2018
Primary CIP	\$50,957,500
Small Projects Program	\$3,042,500
Total	\$54,000,000

FY 2018 Capital Budget By Project Phase

Category	FY 2018
CIP - Design	\$2,443,500
CIP - Rights-of-Way	\$85,000
CIP - Construction	\$47,671,500
CIP - Labor	\$1,800,000
CIP - Project Reserve	\$2,000,000
Total	\$54,000,000



FY 2018 Capital Budget By Project Type



FY 2018 Project Design

Design Effort

- McMicken Dam Rehabilitation
- Vineyard FRS Rehabilitation Phase 3
- Granite Reef Wash Drainage Improvements
- Cave Buttes Dam Modifications



FY 2018 Project Construction

Ongoing Construction:

- Vineyard FRS Rehabilitation – Phase 2
- 115th Avenue/Union Hills Drive Drainage Improvements

New Construction Starts:

- McMicken Dam Rehabilitation
- Powerline Channel
- DRCC (75th Avenue to 107th Avenue)

FY 2018 Small Project Assistance Program

Project List:

- 9004 S. and 9006 S. Avenida del Yaqui (*Guadalupe*)
- Skyview Drainage (*Mesa*)
- Gilbert and Hackamore Drainage (*Mesa*)
- Firefly and Broadway Road Drainage (*Mesa*)
- Maple and Main Street Drainage (*Mesa*)
- Lazona Road and Broadway Road (*Mesa*)
- 52nd Street and Turquoise Avenue (*Phoenix*)
- Grovers Avenue at 53rd Place and 55th Place (*Phoenix*)
- Almeria Area Drainage Improvement Project (*Phoenix*)
- 47th Avenue and Waltann Lane (*Phoenix*)
- 1346 E. Flower Street (*Phoenix*)
- Cheery Lynn Storm Drain (*Scottsdale*)
- Sherwood Heights Detention Basin (*Scottsdale*)

Improvements will directly benefit 30 structures prone to frequent flooding.

Proposed 5-Year CIP Program

Category	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Primary CIP	\$50,957,500	\$36,500,000	\$43,000,000	\$46,000,000	\$64,000,000
Small Projects Program	\$3,042,500	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000
Total	\$54,000,000	\$39,500,000	\$46,000,000	\$49,000,000	\$67,000,000

Program Highlights:

Construction

- McMicken Dam Rehabilitation
- Powerline Channel
- White Tanks FRS No. 4 Outlet
- Granite Reef Wash Drainage Improvements
- Cave Buttes Dam Modifications

Design

- Guadalupe FRS Rehabilitation

Recommendation

District staff recommends that the Flood Control Advisory Board endorse and recommend that the Board of Directors approve:

- Staff's proposed FY 2018 Capital Project Budget
- Staff's proposed FY 2018–2022 Capital Improvement Program

Note: Subsequent to adoption of the proposed FY 2018 Capital Project Budget, adjustments to this proposed budget in response to project cost and schedule changes may be proposed by District staff and will be subject to Board of Directors approval.



Questions?





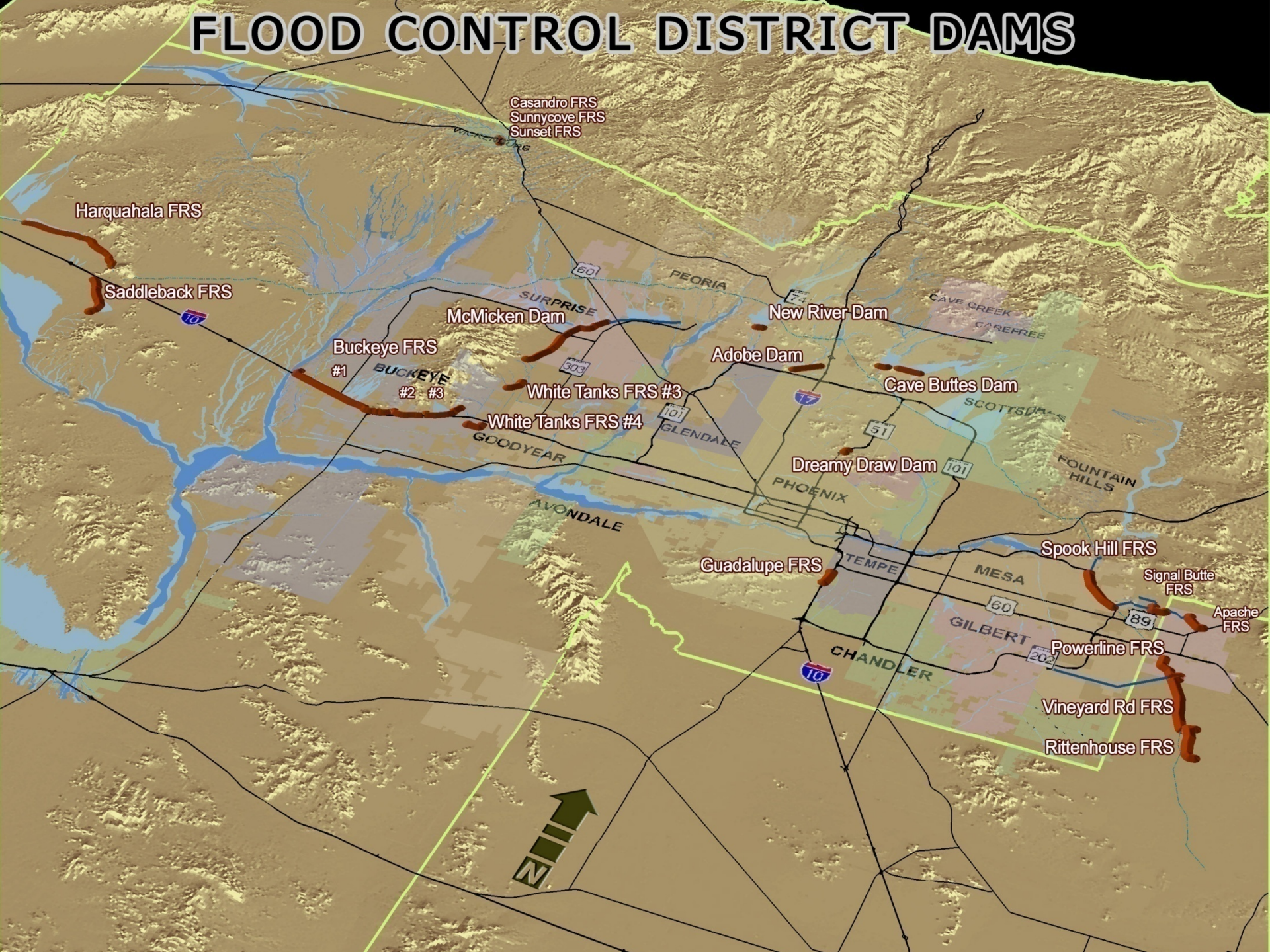
Dam Safety Program Fiscal Year 2018 Budget



Tom Renckly, P.E.
Dam Safety Branch Manager

White Tanks FRS No. 3

FLOOD CONTROL DISTRICT DAMS



Dam Safety Program

Dam Failures: Wake Up Call

- Dam Owners
- Regulators

Dam Safety Improvements 1997-2017

What Are District's Dam Safety Risks

- Emergency Spillway Discharges
- Dam Failure

What Are We doing About it?

- Emergency Action Plans
- Annual Flood Drills
- Rehabilitation of Dams
- Partnership with NRCS, \$120 Million
- Strong Dam Safety Program
- High Quality Operation & Maintenance



Dam Safety Program Goals

Risk Reduction and Risk Management

- Stay ahead of issues to assure no imminent threats to public safety
- Reduce dam safety risk through dam rehabilitation and modifications
- Maintain or improve current level of flood protection provided by 22 dams for the long-term
- Manage risk through inspections, monitoring, surveys, maintenance, repairs, EAPs

Dam Safety Program Activities

FY 2018 Dam Safety Budget

- *Recurrent Dam Safety Activities*
- *Structures Assessments and Repairs*

Briefing

- *Status of Dam Rehabilitation and Modifications (CIP)*



White Tanks FRS No.4



PVR Dams

Recurrent Dam Safety Activities

Dam Surveys

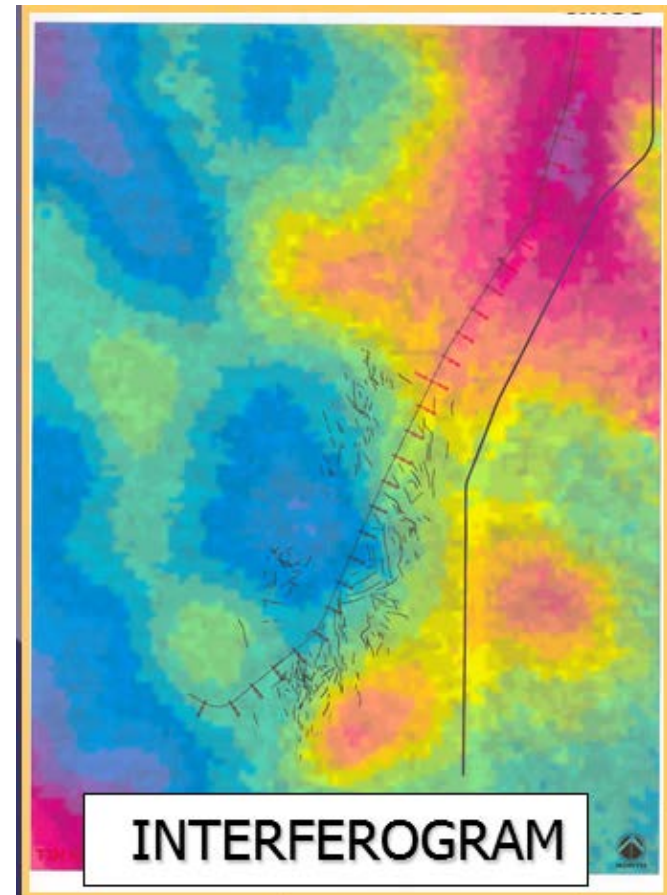
- Powerline FRS
- Vineyard Road FRS
- White Tanks FRS No. 3
- McMicken Dam
- Spook Hill FRS
- White Tanks FRS No. 4
- Saddleback FRS
- Harquahala FRS
- Buckeye FRS 1,2,3



Recurrent Dam Safety Activities

Earth Fissure & Land Subsidence Monitoring

- McMicken Dam
- White Tanks FRS#3
- Powerline FRS
- Vineyard Road FRS



Structures Assessments and Repairs



- Guadalupe FRS Embankment Investigations
- Other Dam Safety Issues by need and priority

Dam Safety Program Budget FY 2018

Dam Safety Program

• Recurrent Activities	\$ 840,000
• Assessments and Repairs	\$ 70,000
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Total	\$ 910,000

Dam Rehabilitation/Dam Modifications Status Briefing

- Overall Dams Are Well Maintained
- Recurrent dam safety activities and structures assessment are keeping the dams safe to operate for the short term and interim term
- 2 Dam Rehabilitation Projects Completed
- 7 Dams identified for rehabilitation or replacement for dam safety reasons
- 2 Dams Identified for Modifications

Dam Rehabilitation Project Status



Spook Hill FRS Rehab
Completed 2008

White Tanks FRS No. 3
Completed 2011



Powerline FRS IDSM

Construction Completed 2014



Dam Rehabilitation Projects Status

White Tanks FRS No. 4 Rehab

- Phase I Construction completed
- Phase II Construction in progress

Buckeye FRS No. 1 Rehab

- Phase I Construction Completed
- Phase IIA Construction in progress
- Phase IIB Design in progress

Vineyard Road FRS Rehab

- Phase I Construction in progress
- Phase II and III Design in progress



Dam Modifications Project Status

Powerline Channel

- Design in progress

McMicken Dam Rehab

- Phase I & II Design in progress

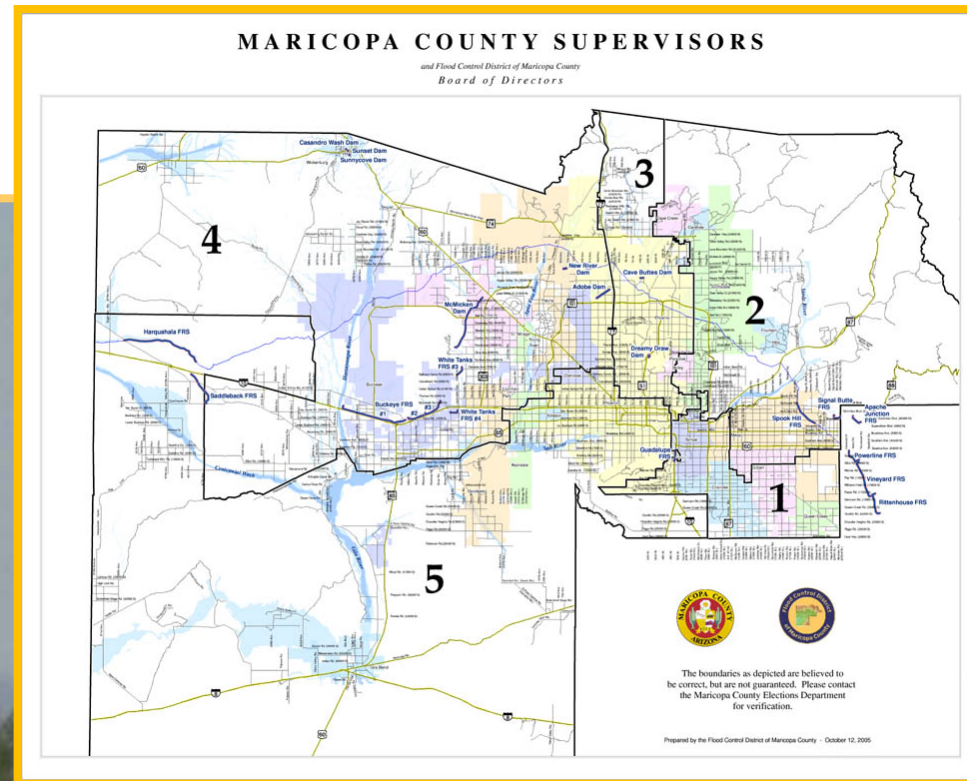
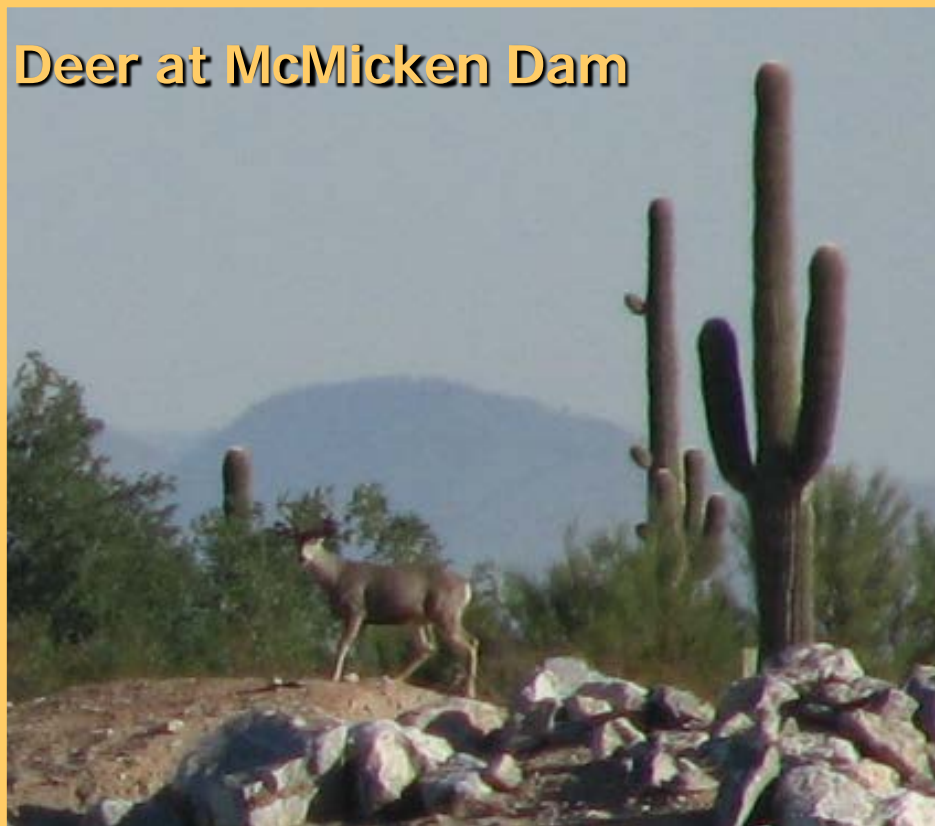
Cave Buttes Dam Modifications: Auxiliary Outlet

- Design in progress

Projects Pending Funding

- Rittenhouse FRS Rehab
- Saddleback FRS Rehab
- Guadalupe FRS Modifications

Questions





Fiscal Year 2018 Planning Program

Douglas Williams, AICP

Planning Branch Manager

Planning Program Definitions

- **ADMS** - Area Drainage Master Study

Watershed based study that establishes hydrology and identifies flood prone areas

- **ADMP** - Area Drainage Master Plan

Watershed based study that develops solutions to flooding problems

- **DCR** - Design Concept Report

Study that refines or modifies ADMP proposed projects leading to design and construction

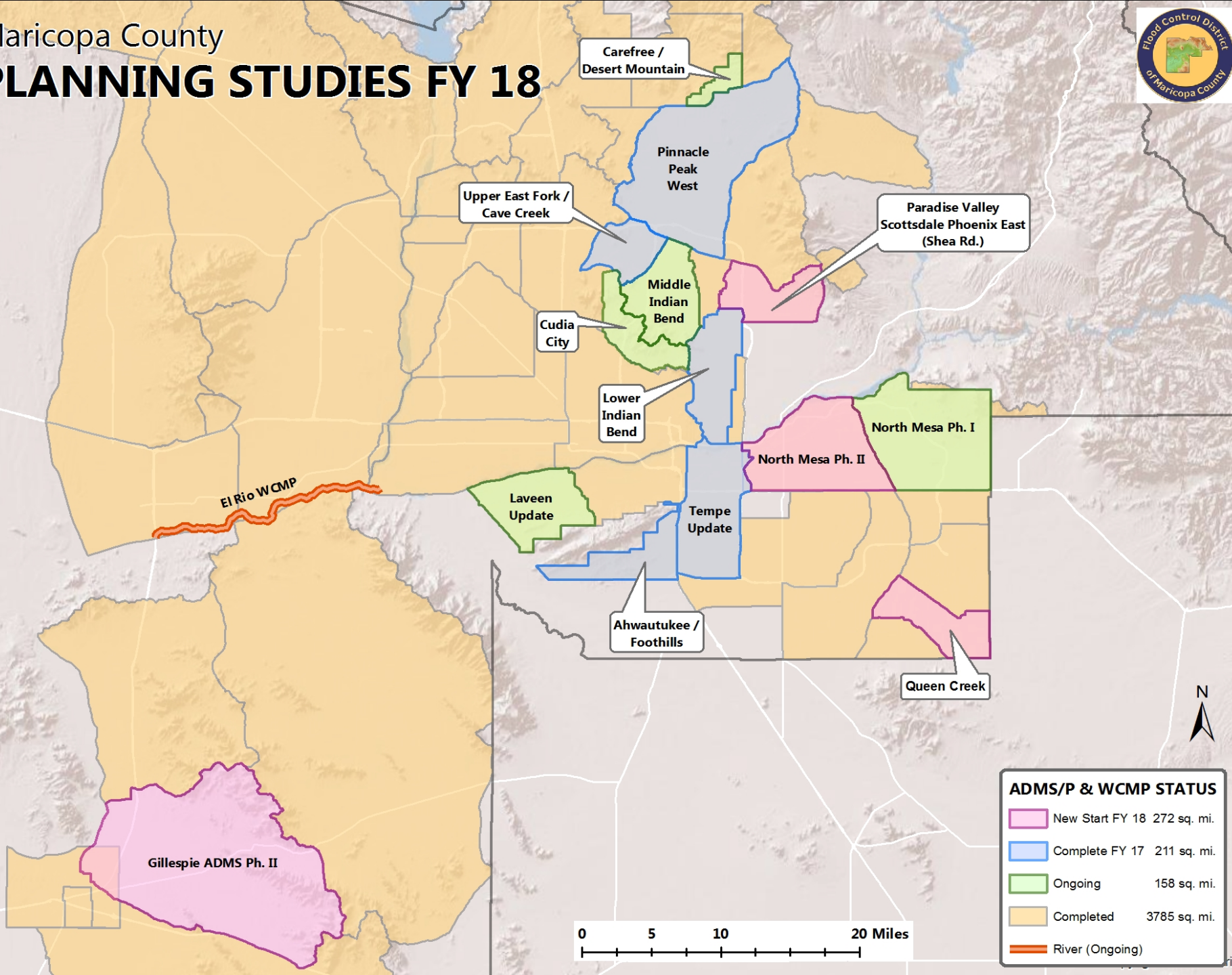
Program Objectives

- **Mandate: (ARS 48-3609) Identify flood hazards & prepare plans to mitigate hazards**
- **Dual purpose goals:**
 - *Assess urban flooding issues*
 - *Get ahead of development*
- **Evaluate structural & non-structural alternatives to mitigate flooding**
- **Support Partner Cities to advance multiple-use opportunities**

Benefits from ADMS/P's

- Cities - Utilize data to strategically plan and appropriately size drainage infrastructure
- Developers - Provides coordinated drainage plan and saves future public expenditures as developers build projects
- General Public - Presents flood hazard information and provides flood education and awareness, also builds consensus for mitigation strategies

PLANNING STUDIES FY 18



ADMS/P & WCMP STATUS

■	New Start FY 18	272 sq. mi.
■	Complete FY 17	211 sq. mi.
■	Ongoing	158 sq. mi.
■	Completed	3785 sq. mi.
—	River (Ongoing)	

External Services Budget for FY 18

FY 18 Planning Elements

FY 18 Budget

Ongoing ADMS's

Cudia City Wash (ACDC South) ADMS (start spring 2017)	\$250,000
North Mesa Ph. I ADMS	\$100,000
Carefree/Desert Mt. ADMS (start spring 2017)	\$200,000
Middle Indian Bend Wash (MIBW) ADMS Update	\$175,000
Laveen ADMS Update	\$150,000
Ongoing ADMS Total	<u>\$875,000</u>
<u>New ADMS's</u>	
East Shea Rd. Corridor (PVSP East) ADMS	\$200,000
North Mesa Ph. II ADMS	\$100,000
Woolsey/Gillespie Ph. II ADMS	\$75,000
New ADMS Total	<u>\$375,000</u>

ADMS Total

\$1,250,000

External Services Budget for FY 18

FY 18 Planning Elements

FY 18 Budget

Design Concept Reports (DCR's)

Rawhide Wash Re-delineation & DCR Floodwall Investigations (PPW ADMS)	\$275,000
44th St. & Dynamite DCR Basin DCR (PPW West)	\$175,000
Continental/Fillmore St. DCR (LIBW ADMS)	\$175,000
CAP & Veterans Cemetery DCR (PPW ADMS)	\$100,000
Central Phoenix DCR Investigation (Metro ADMP)	\$100,000
Mandan St. Channel DCR (Ahwatukee ADMS)	\$120,000
27th Ave. Basin Connections DCR (Laveen ADMS)	\$100,000
Terraveida Way Bridge DCR (PPW West)	\$100,000
Northtown DCR (Upper East Fork Cave Creek ADMS)	\$75,000
El Rio Levee DCR (potential follow-up)	\$75,000

DCR Total

\$1,295,000

External Services Budget for FY 18

FY 18 Planning Elements

FY 18 Budget

New Mapping

Sun Valley ADMS Mapping (Alluvial Fan areas)	\$100,000
Queen Creek ADMS Mapping	\$100,000
North Mesa ADMS Ph. II Mapping	\$100,000
New Mapping Total	<u>\$300,000</u>
<u><i>Gila River/El Rio Implementation</i></u>	
El Rio Pilot Project Planning & Construction (Fall 2017)	\$150,000
Gila & Agua Fria Rivers Confluence Lake Concept Plan	\$125,000
EL Rio 404 Permit Support for Threatened & Endangered Species Surveys	\$100,000
El Rio Vegetation Plan	\$21,000
Gila River/El Rio Implementation Total	<u>\$396,000</u>
<u><i>Other</i></u>	
PPW ADMS Fans 5 & 6 Re-delineation (address FEMA comments)	\$50,000
Bob Fox @ Wild at Heart – Owl Relocation	\$5,000

FY 18 Total

\$3,296,000

FY 17 & FY 18 Comparison

	<u>FY 17</u>	<u>FY 18</u>
On-going ADMS/P's	\$1,795,000 (56%)	\$875,000 (27%)
New ADMS/P's	\$400,000 (13%)	\$375,000 (12%)
New Mapping	\$229,000 (5%)	\$300,000 (9%)
Gila River/El Rio	\$425,000 (14%)	\$396,000 (12%)
DCR's	\$400,000 (13%)	\$1,295,000 (40%)
<hr/>		
<i>Total</i>	<i>\$3,254,466</i>	<i>\$3,296,000</i>

Questions



ques·tion

/ˈkwesCH(ə)n/

verb

gerund or present participle: **questioning**

ask questions of (someone), especially in an official context.

"four men were being questioned about the killings"

synonyms: interrogate, cross-examine, cross-question, quiz, catechize; More

- feel or express doubt about; raise objections to.

"members had questioned the cost of the scheme"

synonyms: query, call into question, challenge, dispute, cast aspersions on, doubt, suspect, have suspicions about, have reservations about

"she questioned his motives"



Floodplain Delineation Program Fiscal Year 2018

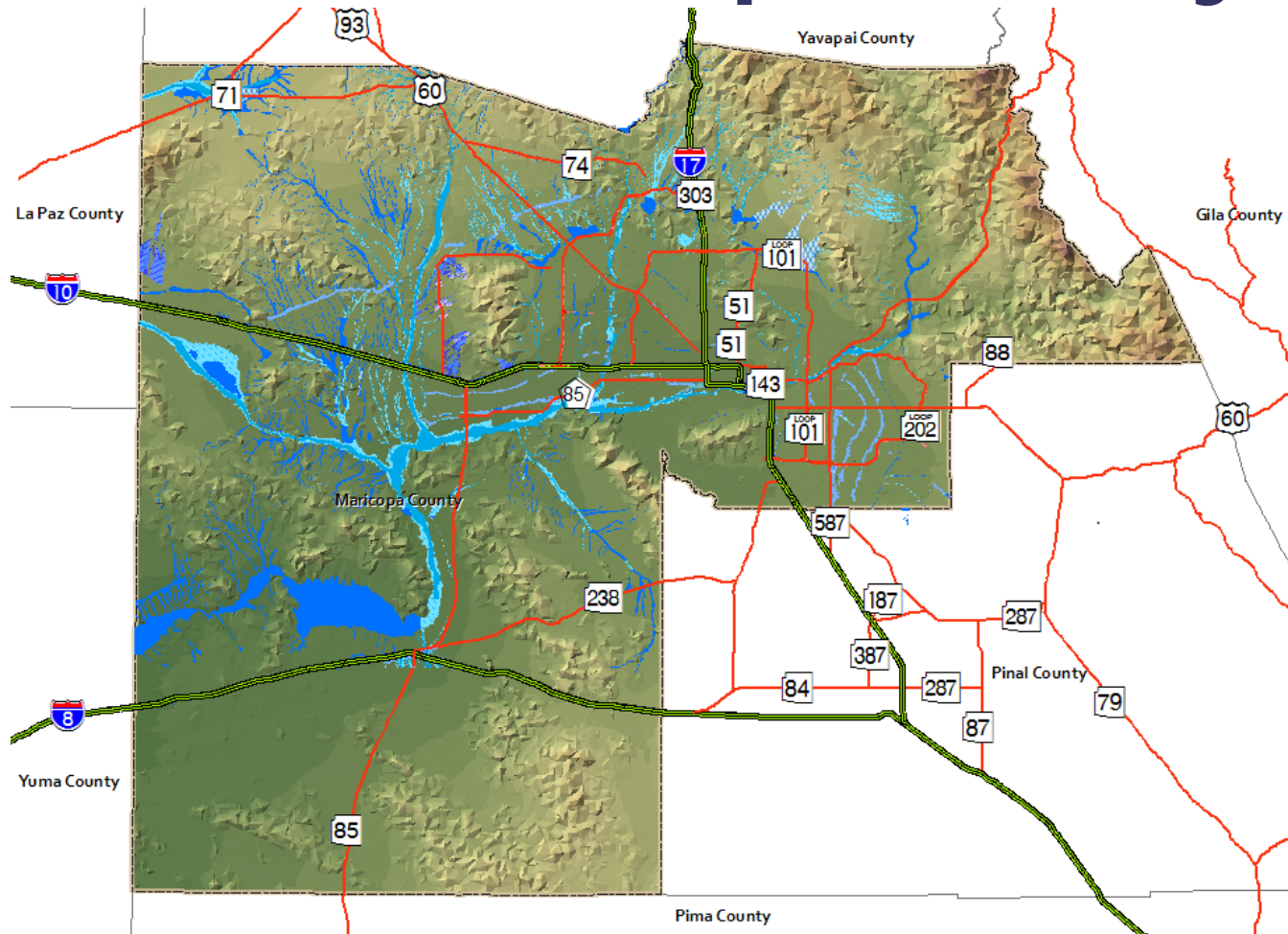
Catherine Regester, P.E., CFM

Hydrology and Hydraulics Branch Manager

Purpose

- Comply with ARS § 48-3609
- Minimize the loss of life and property
- Minimize the need and necessity to mitigate or remediate flood problems

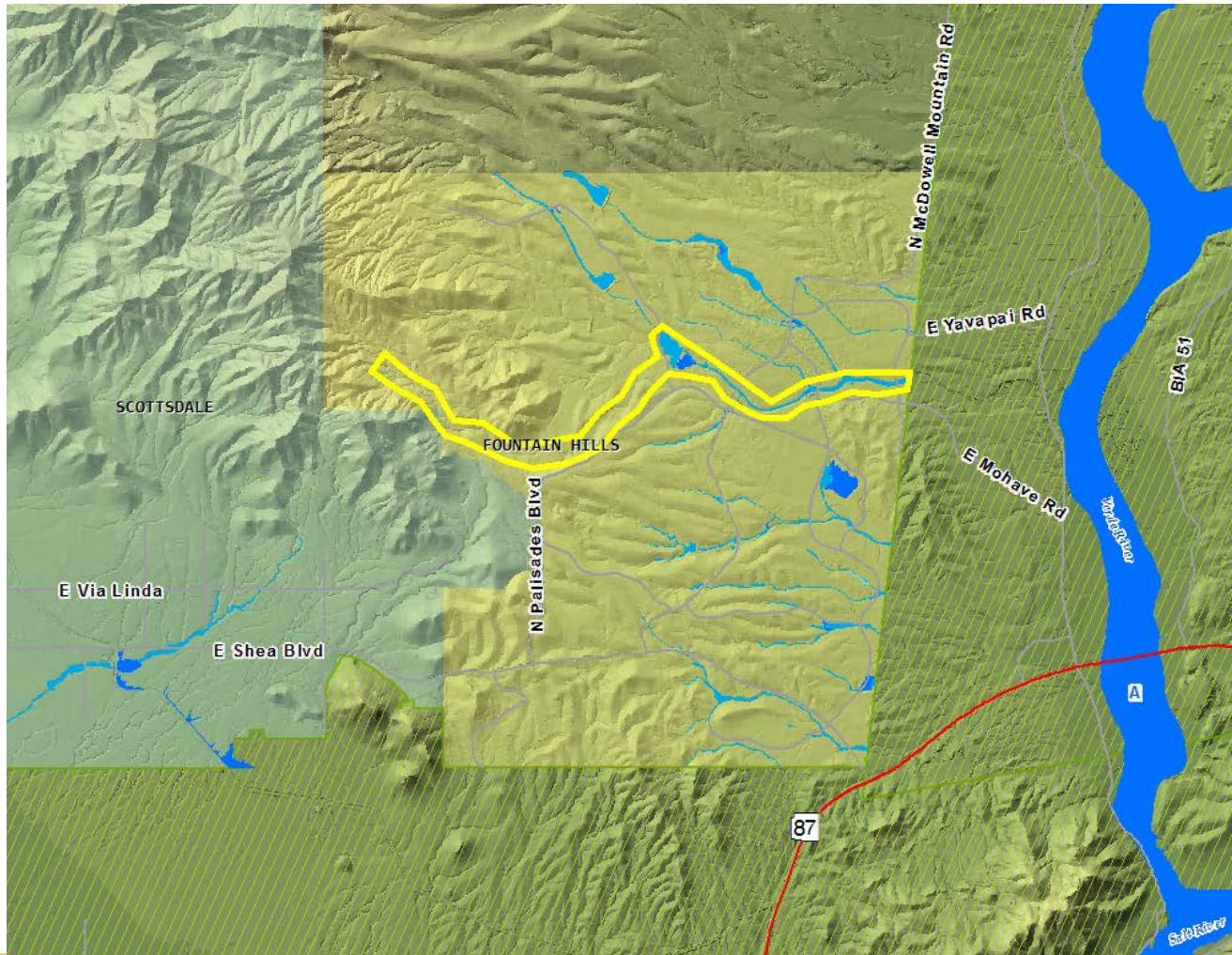
Floodplains Delineated within Maricopa County



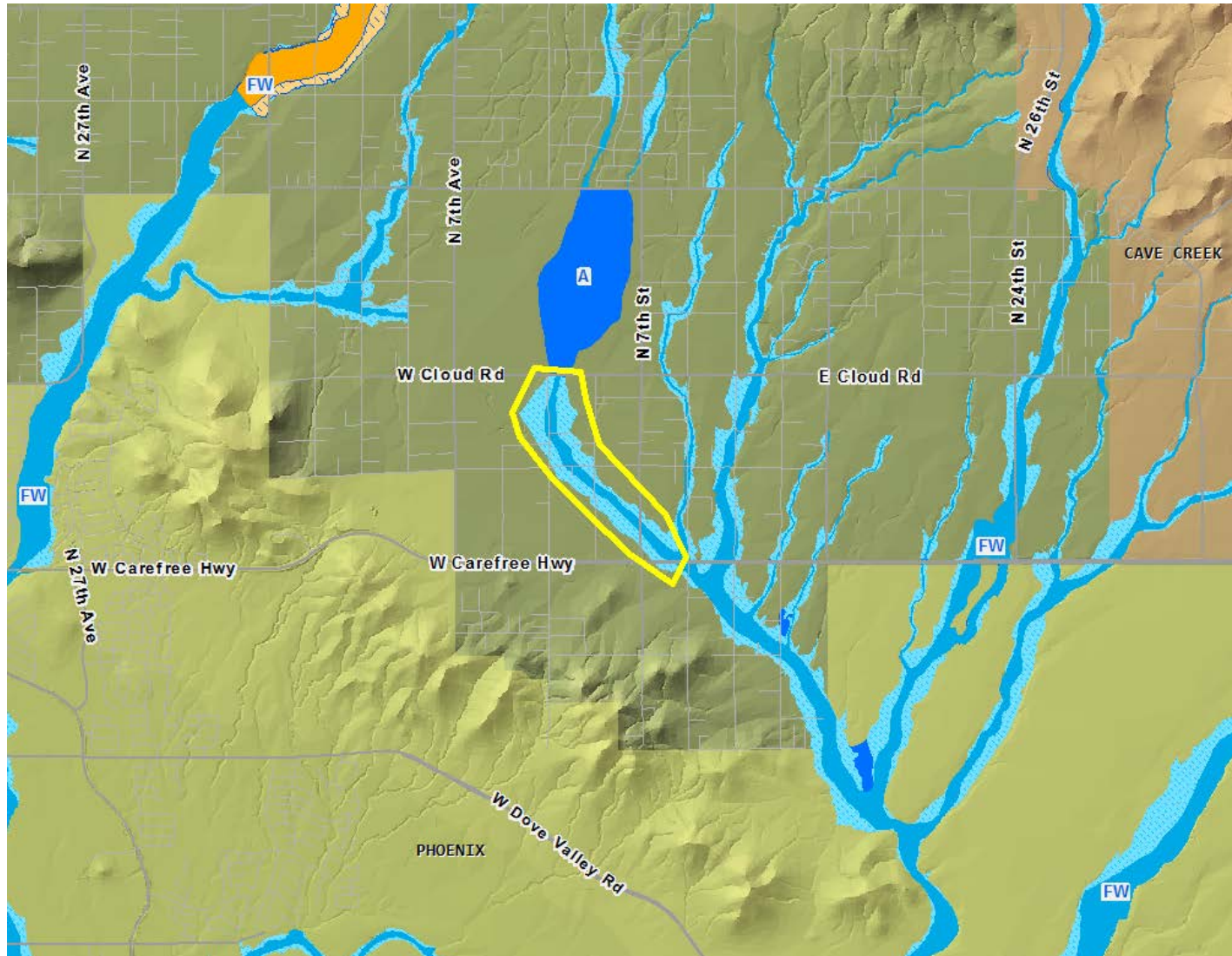
PROGRESS LAST 5 YEARS

<u>Year</u>	<u>Miles</u>
FY 18 (anticipated)	32
FY 17 (anticipated)	139
FY 16	62
FY 15	20
FY 14	101
FY 13	116

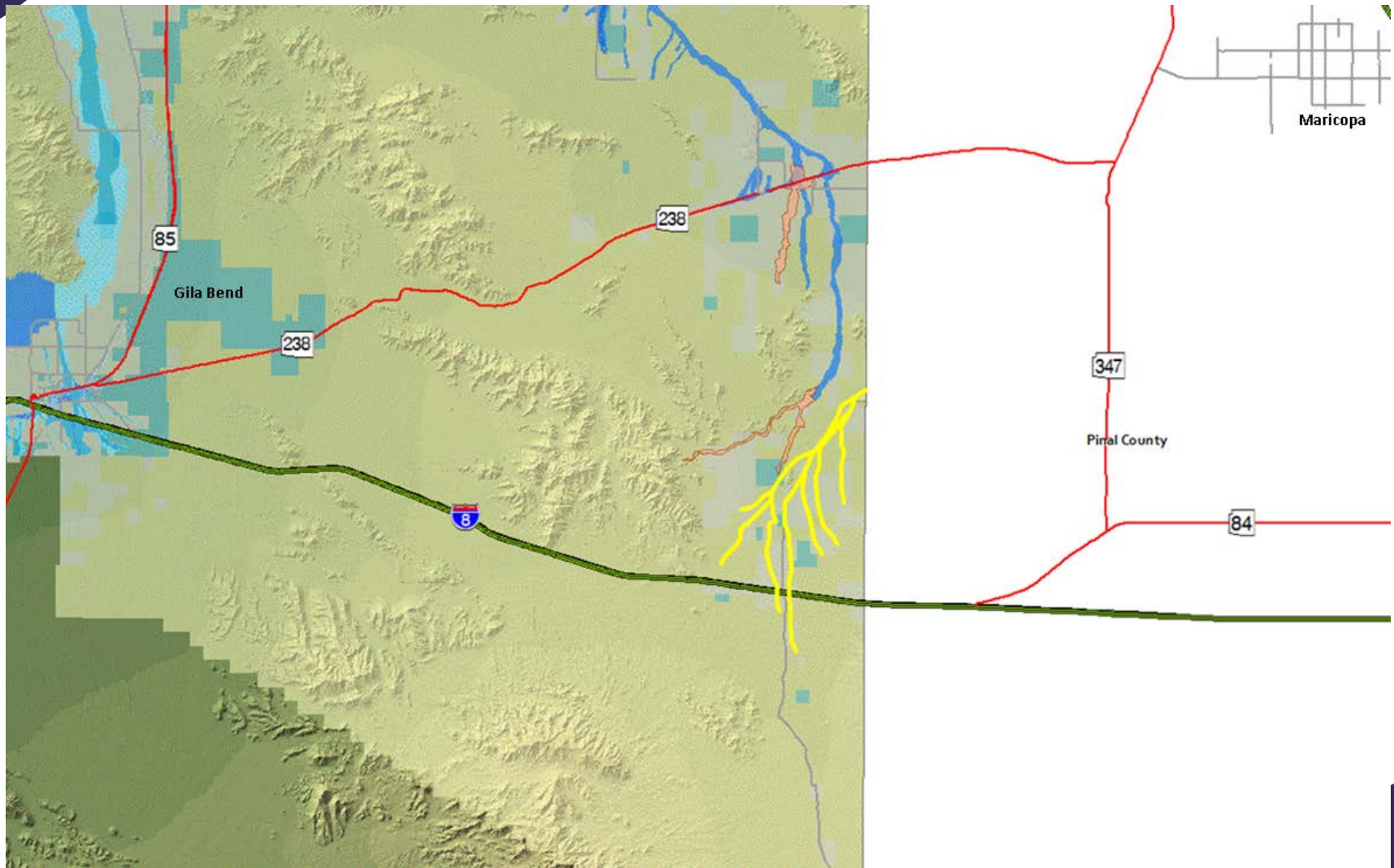
Ashbrook Wash and Cloudburst Wash



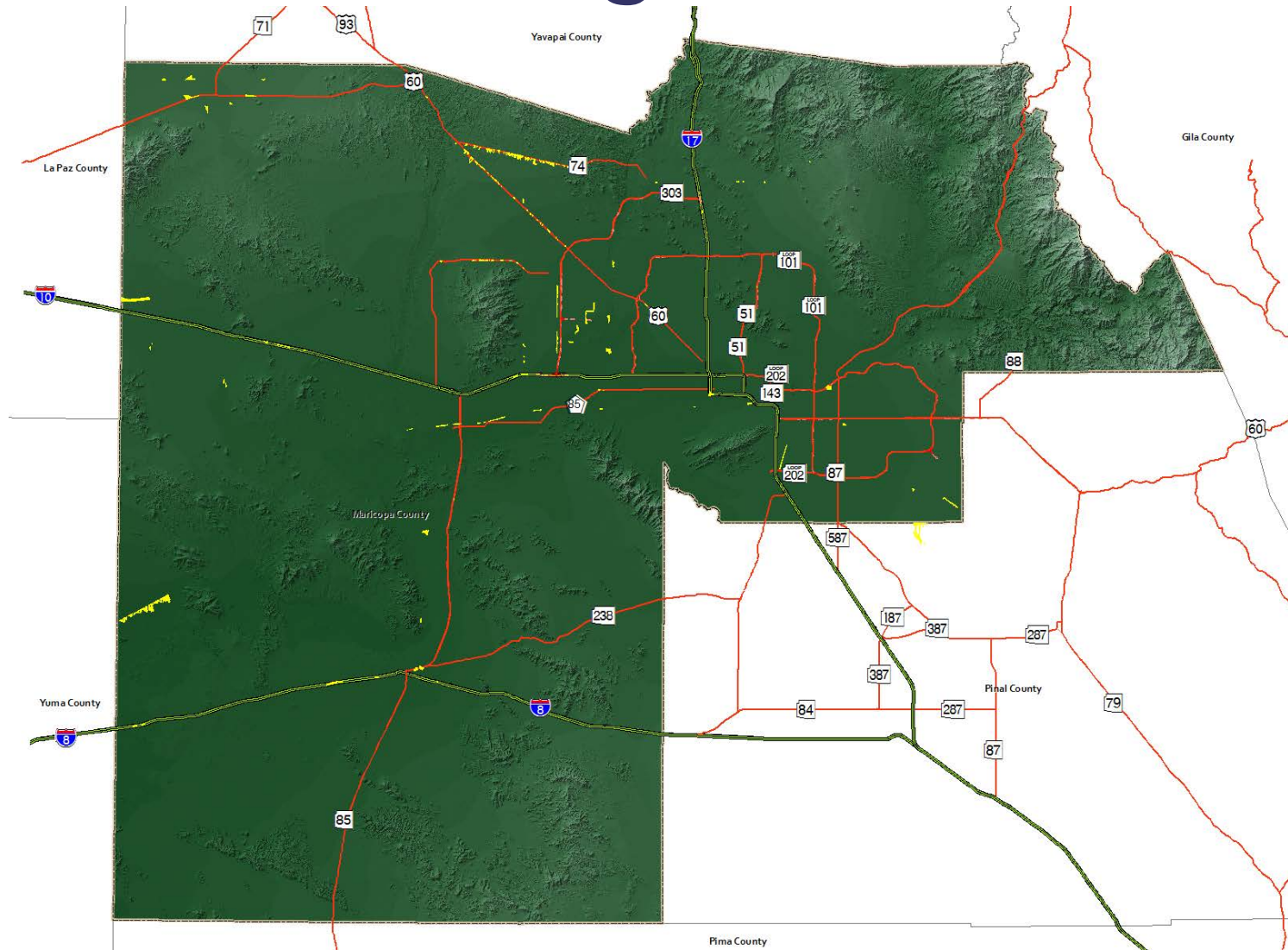
Desert Lake Wash



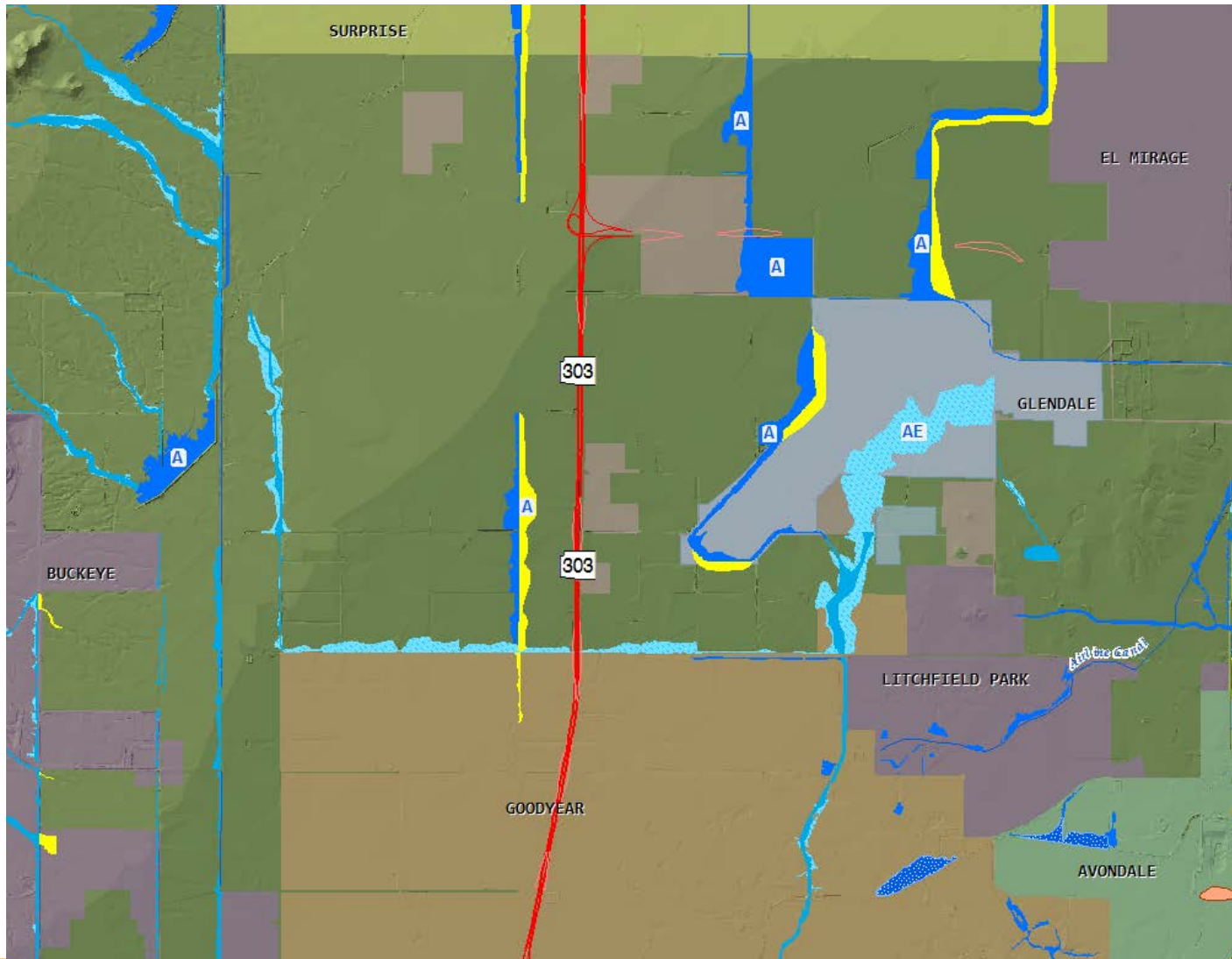
Vekol Wash Hydrology



FEMA Assigned Zone A



FEMA Assigned Zone A



FY 2018 External Services Operating Budget

Floodplain Delineation Program

Ashbrook Wash and Cloudburst Wash	\$160,000
Desert Lake Wash	\$25,000
Vekol Wash Hydrology	\$120,000
FEMA Assigned Zone A Areas	\$60,000
Completion of FY17 Contracts & Misc. Delineations (Palo Verde Phase II, White Tanks Area, Rock Springs Creek)	\$39,000
Elevation Certificate Program for PMR Studies Effective Spring 2018	\$75,000
FEMA Fees, Misc.	\$42,000
TOTAL	\$521,000





Comments from the Chief Engineer and General Manager





Summary of Recent Actions By the Board of Directors



Denny Barney
District 1
- **Chairman** -



Steve Chucri
District 2



Bill Gates
District 3



Clint L. Hickman
District 4



Steve Gallardo
District 5

Other Business and Comments from the Public

